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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,005	05/05/2005	Roman Brunel	112740-1076	2397
29177	7590	11/03/2006		
BELL, BOYD & LLOYD, LLC				
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CHICAGO, IL 60690-1135				
EXAMINER				
CHOW, CHARLES CHIANG				
ART UNIT		PAPER NUMBER		
2618				

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/534,005

Applicant(s)

BRUNEL ET AL.

Examiner

Charles Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/5/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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Detailed Action

Title

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title does not descriptive for the key features of the invention, for the independently adjusting of the transmitting output power of the divided frequency band to reduce the radiation harm, specific absorption rate SAR.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Bosch (US 6,792,296) in view of Koji (JP 2002-043873).

Note: there is no feature, in the claim, for the reducing of the specific absorption rate SAR.

For claim 11, Van Bosch teaches a method [steps in Fig. 5/Fig. 3-4] for transmitting power adjustments for a mobile communications terminal [adjusting, configuring, the output power of wireless communication device 22, abstract; based on each frequency band having the cable power loss for external antenna, col. 10, lines 32-45],

wherein said terminal [22] comprises a power amplifier [PA module 74, Fig. 3] whose output signal is normally dependent on the frequency of an input signal to the power amplifier [the PA 74 output signal is based on the uplink input frequency band, col. 7, lines 49-67] , said method comprising the steps of

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subdividing a radio frequency band into two or more frequency intervals [divided frequency bands in offset table 130, Fig. 5];

detecting whether an internal or external antenna is being used in the communications terminal [detector 70B determines whether the device 22 is connected to the external antenna 40, col. 5, line 66 to col. 6, line 15];

adjusting power for at least two of the frequency intervals when an external antenna is detected, wherein the applied RF power is independent of the frequency of the input signal to the power amplifier [when connected to external antenna, steps 114; adjust PA 74 output power based on the offset table, step 120, col. 12, lines 13-22, and col. 11, line 57 to col. 12, line 12]; and

Van Bosch teaches the method for detecting the connection to internal antenna via detector 70B, but fails to teach the adjusting the power of the internal antenna for at least two frequency intervals, for independent of input frequency.

Koji teaches the adjusting power for at least two of the frequency intervals using an antenna, wherein power emitted from the terminal is independent of the frequency of an input signal to the power amplifier [the individually adjusting of the output power of the different narrow band power amplifier C1-C3, having different band 1, 2, 3, in abstract, drawings 1-2, as the adjusting power, independent of input frequency to power amplifier], to reduce the unwanted harmonic power output [abstract]. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Bosch with Koji's individually adjusting of the output power of each power amplifier, in order to reducing the unwanted harmonic transmitting power.

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[Other reference, **Toninato WO 01/11,716**, teaches the reducing of the SAR by adjusting the relative transmitting power according to different frequency band, abstract, page 6, 4-11, his claims 1-3].

For claim 12, Van Bosch teaches the method [steps in Fig. 5], wherein the step of adjusting power for at least one of the frequency intervals comprises accessing at least one reference table, in which an adjustment factor is associated with each frequency interval [the adjusting of the PA 74 output power in step 120 according to each frequency range in table 130, Fig. 5, col. 12, lines 13-22].

For claim 13, Van Bosch teaches a mobile communications terminal [22, Fig. 3], comprising a power amplifier [74], said power amplifier receiving an input signal [PA 74 receives signal from rf circuit 76];

an internal antenna [58, col. 5, lines col. 5 lines 40-45, Fig. 1/Fig. 3]; an external antenna [40, Fig. 3, col. 4, line 63 to col. 5, line 6], coupled to said terminal via an RF interface [36B, 66, Fig. 3]; an antenna detector [70B], operatively coupled to said internal and external antenna [microcomputer 52 controls the operation of switch 66 for internal, external antenna, col. 5, lines 45-52],

wherein said antenna detector [70B] determines whether the internal or external antenna is being used [col. 5, line 66 to col. 6, line 15]; and

a power adjustment device [72] operatively coupled to said antenna detector[70B, coupled via microcomputer 52] and power amplifier [74],

wherein the power adjustment device adjusts power for at least two frequency intervals when an external antenna is detected, wherein the applied RF power at the interface is independent of the frequency of the input signal to the power amplifier [when connected to external antenna, steps 114; adjust PA 74 output power based on the offset table, step 120,

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col. 12, lines 13-22, and col. 11, line 57 to col. 12, line 12].

Van Bosch teaches the detecting of the connection to internal antenna via detector 70B, but fails to teach the adjusting the power of the internal antenna for at least two frequency intervals, for independent of input frequency.

Koji teaches the power adjustment device adjusts power for at least two of the frequency intervals using an antenna, wherein power emitted from the terminal is independent of the frequency of an input signal to the power amplifier [the bias voltage controller F, the individually adjusting of the output power of the different narrow band power amplifier C1-C3, having different band 1, 2, 3, in abstract, paragraph 0007, drawings 1-2; as the adjusting power, independent of input frequency to power amplifier], to reduce the unwanted harmonic power output [abstract]. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Van Bosch with Koji's individually adjusting of the output power of each power amplifier, in order to reducing the unwanted harmonic transmitting power.

For claim 14, Van Bosch teaches the mobile communication terminal [22], wherein the power adjustment device comprises at least one software-implemented reference table [130], in which an adjustment factor is associated with each frequency interval [microcomputer 52 implements software in memory 54, for the adjusting of the output power of the PA 74, for each frequency band in table 130, Fig. 5, col. 11, lines 9-18; according to table 130 in memory, col. 11, line 57 to col. 12, line 12].

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- A. US 2003/0064,761 A1, Nevermann teaches the system and method for reducing SAR value, having controller 114, PA 116, sensor 112, based on human body proximity signal 120 [abstract, Fig. 5].
- B. US 2004/0203,396 A1, Chen teaches the adjusting of the standing wave ratio SWR, for the reducing transmitting power, to reduce the SAR, at frequency point 1 instead of frequency point 2 [abstract].
- C. US 2004/0046,701 A1, Huber et al. teaches the radio device for reducing the SAR value [abstract].
- D. US 7,099,632 B2, Hong et al. teaches the wireless phone for reducing the SAR [abstract].
- E. US 2002/0055,338 A1, Greverie et al. teaches the reducing of SAR, with switch 5, 10 [abstract, paragraph 0014, 0049].
- F. US 5,884,149, Jaakola teaches the dual band rf power amplifier in different amplifier path, the 800, 1900 MHZ path, the output power is controlled by the TXC command [abstract, figure in cover page].
- G. US 5,048,117, Aisaka et al. teaches the detecting of antenna connection to boost PA 310 with antenna 312, other than antenna 301 [abstract, figure in cover page].
- H. US 6,580,901 B1, Moshizuki teaches the power output control to reduce the phase error [abstract, figure in cover page].
- I. US 6,985,751 B2, Bartl et al. [assignee of this application], Siemens communications Inc.] teaches the combined open & closed loop power control with differential measurement [abstract].

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow *cc*.

October 19, 2006.


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